

von dem hin und her bewegten Mantel geglättet, wenn das Tier sich in die Schale zurückzieht oder wieder herauskommt. Auf die Erschlaffung des Mantelrandes deutet auch der Mangel an Ordnung und Parallelität in den Zuwachsstreifen. Ich glaube kaum, daß diese Deutung auf Schwierigkeiten stößt. Höchstens könnte ich mich in der Annahme getäuscht haben, daß die normalen Schnecken alle in der Trockenperiode zugrunde gehen. Viele mögen wieder erwachen und zur Fortpflanzung schreiten; aber sie wachsen nicht weiter. Das tut nur die Schnecke, die von Anfang an zum Riesenwuchs neigt.

Früher schon beschrieb ich, nach Aufzeichnungen von Heynemann, einen Fall von Riesenwuchs bei einer Weinbergschnecke<sup>2</sup>. Das betreffende Exemplar übertraf seine Genossen um einen halben Umgang, was bei der Proportion, in der sich das Gehäuse erweitert, sehr viel sagen wird. Die Schalenstruktur war aber durchaus normal. In der Radula dagegen waren unregelmäßig gebildete Zahnreihen interpoliert. Ein Fall, wie der des *Thaumastus*, ist mir noch nicht begegnet. Es wäre wünschenswert, zu hören, ob andre ähnliche Beobachtungen gemacht haben.

### 3. A Revision of the Cestode family Proteocephalidae<sup>1</sup>.

By George R. La Rue.

eingeg. 14. September 1911.

For several years I have been engaged in a study of the cestodes of fish, reptiles and amphibia which have been assigned to the genus variously known as *Proteocephalus* Weinland, *Ichthyotaenia* Lönnberg and *Tetracotylus* Monticelli. The results of that study are soon to be published as a monograph. A few of the more important findings upon questions of nomenclature and the anatomical relationships of some of the old and new species are presented here. For the purposes of my study Prof. H. B. Ward has been able to secure much old and new material without which the scope of the work must have been greatly limited. My thanks are due both to him and to the others who so kindly assisted me.

My investigations have shown that *Taenia ambigua* Dujardin is a synonym of *Taenia filicollis* Rudolphi. Hence the genera *Proteocephalus* Weinland and *Ichthyotaenia* Lönnberg of which the above named species are respectively the types are synonyms. The name *Proteocephalus* being the older should be retained to designate the genus. I

<sup>2</sup> Simroth, Über einen Fall von Riesenwuchs bei *Helix pomatia*. Sitzgsber. nat. Ges. Leipzig. XXII/XXIII. 1897.

<sup>1</sup> Contributions from the Zoological Laboratory, University of Illinois, under the direction of Henry B. Ward, No. 10.

cannot regard the objections of Lühe (1899) as adequate for its rejection.

*Taenia filicollis* Rudolphi is not a synonym of *Taenia ocellata* Rud. as Kraemer (1892) has stated. Kraemer's form was a new species which I have named *Proteocephalus fallax* nov. spec. (vide infra).

An examination of Monticelli's type slides of *Tetracotylus coryphicephala*, the type of *Tetracotylus* by Braun's designation, shows that species to be generically different from *Proteocephalus filicollis* Rud. Hence *Tetracotylus* and *Proteocephalus* are not synonyms. But since Braun (1900) has objected to the name *Tetracotylus* on the ground that it has been used for *Tetracotyle*, a name proposed by Filippi (1894) to designate a group of immature trematodes, I propose for this genus of cestodes the name *Monticellia* in honor of Prof. Fr. Sav. Monticelli who has done much to advance our knowledge of the group. The genus is characterized thus:

*Monticellia* nov. gen.: — Head small, suckers without accessory areola. No rostellum. Testes, vitellaria and uterus entirely outside the inner longitudinal muscle-sheath. Vitellaria composed of scattered follicles which form broad lateral fields. Testes numerous, forming a single broad dorsal field between vitellaria. Uterus ventral, with many lateral pouches. Genital pore marginal, irregularly alternating. Ovary bilobed. In Siluridae.

*T. coryphicephala* Monticelli is the type of the genus. Here also belong *T. diesingii* Monticelli, *T. macrocotylea* Monticelli and probably *T. malopteruri* Fritsch which seems to have more affinities with this genus than with *Proteocephalus*. Specimens of the three species described by Monticelli have been restudied and redescribed in the monograph which is soon to appear.

*Monticellidae* nov. fam.: — It is necessary to form a new family to contain the new genus *Monticellia*. The chief characters are: — Head small. Suckers without accessory areola. Sexual organs as in the type genus, *Monticellia*.

The species remaining in the genus *Proteocephalus*, sensu lato, after the removal of the species of *Monticellia* may be readily separated into two groups on the basis of the distribution of testes in two narrow lateral fields or in a single broad field. The reptilian and amphibian cestodes fall within the first group and the fish cestodes in the second, and each of these groups may be further subdivided. The first is separable into the genera *Acanthotaenia* v. Linstow, *Crepidobothrium* Monticelli and *Ophiotaenia* nov. gen., and the second into *Choanoscolex* nov. gen. and *Proteocephalus* s. str.

The genera of the two groups above mentioned, together with the

genus *Corallobothrium* Fritsch, belong in the family Proteocephalidae which may be briefly characterized thus:

Proteocephalidae: — Head small, without rostellum, unarmed or armed with minute spines. Fifth sucker functional, vestigial or lacking (?). Genital pore marginal, irregularly alternating. Testes numerous, dorsal, between vitellaria. Ovary bilobed, posterior. Vitellaria lateral, follicular, follicles grouped about a central conducting tubule. Uterus median, ventral, with lateral out-pocketings and with one or more preformed ventral openings. Ovary, vitellaria, uterus and testes within inner longitudinal muscle-sheath. In fresh-water fish, amphibia and aquatic reptiles.

*Proteocephalus* Weinland, s. str.: — Head globose or conical, flattened dorsoventrally. No rostellum, no spines, no hooks. No fold of tissue encircling base of head or enfolding suckers. Suckers circular or oval. Fifth sucker functional or vestigial, rarely lacking. Testes in one broad field between vitellaria. Vagina usually anterior to cirrus-pouch. Sexual organs as in family. Eggs with three membranes.

In fresh-water fishes.

The type-species is *P. filicollis* (Rudolphi) = *P. ambiguus* (Dujardin). Here also belong *P. longicollis* (Rud.), *P. macrocephalus* (Creplin), *P. percae* (O. F. Mueller) = *Taenia ocellata* Rud., *P. torulosus* (Batsch), *P. ambloplitis* (Leidy), *P. fossatus* (Riggenbach), *P. esocis* (Schneider), *P. skorikowi* (v. Linstow), *P. agonis* (Barbieri), *P. pentastomus* (Klapotcz), *P. sulcatus* (Klapotcz), *P. pusillus* Ward. Little-known species are *P. osculatus* (Goeze), *P. salmonis-umblae* (Monticelli), *P. cyplops* (v. Linstow), *P. sagittus* (Grimm), *P. hemisphericus* (Molin), *P. microp-teri* (Leidy), *P. simplicissimus* (Leidy), *P. nematosoma* (Leidy), *P. salvelini* (Linton), *Taenia dilatata* Linton is a synonym of *P. macrocephalus* Creplin).

New and heretofore but little known species are here diagnosed.

*Proteocephalus cernuae* (Gmelin): — With characters of the genus. Strobila short, robust, up to 40 mm long  $\times$  1,5 mm broad. Head 0,290—0,316 mm broad  $\times$  0,10 mm long, not well set off from neck. Suckers directed anteriad, heavily muscled, small, with deep cavities. Diameter of suckers 0,064—0,09 mm. Fifth sucker present, 0,24 mm in diameter. Neck broad, 1,7—2 mm long. All proglottids but few ripest broader than long. End proglottid present and functional.

Genital pore near middle of lateral margin of proglottid, irregularly alternating. Cirrus-pouch short, reaching  $\frac{2}{9}$ — $\frac{1}{7}$  across proglottid breadth. Testes about 70, in one layer, and in a single broad field between vitellaria.

Vagina always anterior to cirrus-pouch and not crossing latter.

Uterus with 6—12 lateral pouches on either side. Embryos 0,0212 to 0,0265 mm in length, second egg-membrane 0,037—0,04 mm in diameter.

This species long thought to be the same as *T. ocellata* Rud. is really very different. The description is based on material obtained by Dr. H. B. Ward from Prof. Max Braun. The host is *Acerina cernua* Linn., locality Königsberg, Prussia.

*P. dubius* nov. spec.: — With characters of genus. Cestodes small, 40 mm long  $\times$  0,8—1,2 mm broad. Segmentation not clear. About 100 proglottids. Head small, 0,127—0,212 mm broad, well set off from neck. Four suckers 0,069—0,08 mm in diameter, fifth 0,026 to 0,037 mm. Neck slender, 1,8—3,5 mm long. First proglottids broader than long, 0,20 mm broad  $\times$  0,05 mm long, mature ones quadrate or longer than broad, ripe ones quadrate, broader than long or longer than broad, 1,19 mm long  $\times$  0,68 mm broad to 0,68 mm long  $\times$  1,02 mm broad. End proglottid triangular, small, functional.

Genital pore marginal, at end of first half of proglottid, irregularly alternating. No genital papilla. Testes in two layers, 55—60 in number. Cirrus-pouch slender, 0,265—0,425 mm long, reaching about half across proglottid. Cirrus short and slender when protruded, straight when within cirrus-pouch.

Vagina anterior to cirrus-pouch, crossing middle of latter. Vitellaria sparse. Uterus with 7—14 lateral pouches on either side and with 1—2 ventral pores. Embryos 0,032 mm in diameter.

This species was first described by Zschokke (1884) as *Taenia filicollis* Rud. The preceding description, however, is based on specimens which Dr. H. B. Ward secured from Professor Parona. The host is *Perca fluviatilis* Linn., locality, Lake Geneva or Lake Lucerne.

*Proteocephalus fallax* nov. spec.: — With characters of the genus. Cestodes small, up to 100 mm long by 1,2 mm broad. Head globose, 0,15—0,2 mm broad by 0,105—0,15 mm thick, well set off from neck. Suckers 0,064—0,085 mm in diameter. Fifth sucker functional, 0,058 mm in diameter. Neck slender 2—6 mm long. First proglottids quadrate or longer than broad. Mature proglottids quadrate or broader than long, 0,34—0,46 mm broad by 0,34 mm long. Ripe proglottids longer than broad, rarely measuring as much as 1,19 mm broad by 1,36 mm long. Segmentation not clear.

Genital pore irregularly alternating, near middle of lateral margin of proglottid. Testes 30—35, in one layer. Cirrus-pouch 0,196 to 0,255 mm long in mature, and 0,37—0,42 mm long in ripe proglottids.

Vagina anterior to cirrus-pouch. Vitellaria sparse. Uterus with 6—8 lateral pouches on either side and with 2—3 ventral pores. Em-



bryos 0,031—0,0336 mm in diameter. Second egg-membrane 0,036 to 0,041 mm.

Kraemer (1892) determined that the smaller cestodes of *Coregonus fera* which he had diagnosed as *Taenia filicollis* Rud. were the same as the somewhat larger cestodes from the same host species which he had diagnosed as *Taenia ocellata* Rud. On this basis he declared that *Taenia filicollis* Rud. was a synonym of *T. ocellata* Rud. Kraemer, however, was not working on specimens of either of Rudolphi's species but with a species at that time undescribed. I have examined several cestodes of *Coregonus fera* from the Swiss lakes which had been secured by Dr. H. B. Ward from Prof. Fritz Zschokke. These have agreed in all essential respects with Kraemer's description and drawings.

*Proteocephalus neglectus* nov. spec.: With characters of genus. Head not observed. Segmentation evident. Ripe proglottids 0,5 mm long  $\times$  0,93 mm broad to 0,75 mm long  $\times$  1,53 mm broad. Young and mature proglottids not observed.

Genital pore prominent, near middle of lateral margin, irregularly alternating. Normal cirrus-pouch 0,34 mm long. Cirrus and ductus ejaculatorius straight. Testes about 75, arranged in a single layer.

Vagina anterior to cirrus-pouch, crossing middle of latter. Vitellaria compact. Uterus with 7—9 lateral pouches on either side. Embryos 0,026—0,0265 mm, outer egg-membrane 0,042—0,047 mm in diameter.

This new species is based on a few headless fragments secured by Dr. H. B. Ward from Prof. Fritz Zschokke. These were labelled «*Taenia longicollis* Rud. aus Forelle». The sexual organs differ considerably from *P. longicollis* as described by von Linstow.

*Proteocephalus exiguus* nov. spec.: With characters of genus. Strobila short and slender, 9—38 mm long by 0,425—0,8 mm broad. Segmentation not evident. Neck slender, 2—10 mm long. Head globose, 0,12—0,17 mm broad. Suckers 0,058 mm broad by 0,069 to 0,085 mm long. Fifth sucker muscular, functional, 0,037—0,048 mm in diameter.

Genital pore near middle of lateral margin of proglottid, irregularly alternating. Cirrus-pouch 0,289—0,34 mm long, reaching to middle of proglottid. Cirrus straight, when protruded 0,1 mm long.

Vagina anterior to cirrus-pouch, crossing latter near middle. Vitelline follicles small, not compact. Uterus with 9—14 lateral pouches on either side. Embryos 0,019—0,021 mm, second egg-membrane 0,036—0,046 mm, outer egg-membrane 0,038—0,060 mm in diameter.

This new species is based on material collected by Dr. H. B. Ward in the course of a biological examination of Lake Michigan for the

Michigan Fish Comm. in 1894. The hosts are *Coregonus nigripinnis*, *C. prognathus*, *C. artedi*. Specimens from these same lots were diagnosed and described by Benedict (1900) as *Proteocephalus ocellatus* Rud.

*Proteocephalus pinguis* nov. spec.: — With characters of genus. Strobila short, slender. Max. length observed 90 mm by a breadth of 1,24 mm. Neck slender, 3—7 mm long. First proglottids very short, older ones about quadrate, length rarely exceeding breadth. End proglottid present and functional. Segmentation not distinct. Head conical but showing great variations in shape, breadth about 0,33 mm. Suckers deep, muscular, 0,095—0,105 mm in diameter. Fifth sucker muscular, functional, 0,05—0,075 mm in diameter.

Genital pore near middle of proglottid margin, irregularly alternating. Testes ovoidal, 54—70 in number, forming a single layer. Cirrus straight, short. Cirrus-pouch 0,13—0,14 mm long, reaching  $\frac{1}{3}$ — $\frac{1}{4}$  across proglottid breadth.

Vagina anterior to cirrus-pouch, crossing inner end of latter. Uterus with 10—14 lateral pouches on either side and with 2—3 ventral pores. Embryos 0,016—0,018 mm in diameter.

This new species is based on specimens collected by Dr. H. B. Ward from *Esox reticulatus*, Sebago Lake, Me. and by Prof. T. L. Hankinson from *Esox lucius*, Walnut Lake, Mich. and by A. J. Coates from *Esox lucius*, Lake Geneva, Wis.

*Proteocephalus perplexus* nov. spec.: — With characters of genus. Length 15,5 cm by max. breadth of 1,7 mm. Segmentation plain, angles of proglottids sharp and distinct. Ripe proglottids quadrate or longer than broad, others broader than long. Head globose, with four deep furrows, frequently with small papilla at apex. Head 0,6 to 0,7 mm broad by 0,42—0,51 mm long. Suckers four, 0,34—0,46 mm long by 0,25—0,27 mm broad, with deep cavities. No fifth sucker. Neck broad, thick, 0,5 mm long.

Genital pore lateral, at end of first fourth or half of proglottid, irregularly alternate. Cirrus-pouch 0,30—0,344 mm long, reaching  $\frac{1}{5}$ — $\frac{1}{3}$  across proglottid breadth. Ductus ejaculatorius coiled. Protruded cirrus 0,60 mm long. Testes 135—155, in one layer.

Vagina anterior to cirrus-pouch, never crossing same. Beginning region dilated. Dilatation terminated at inner end by sphincter vaginae. Vagina ciliated. Vitellaria voluminous, follicles large, some of them forming a group along posterior margin of proglottid. Uterus with 20—25 lateral pouches on either side and with 2—4 ventral pores. Embryos 0,013—0,014  $\times$  0,014—0,016 mm, second egg-membrane 0,019—0,030 mm, outer membrane 0,024—0,036 mm in diameter.

In *Amia calva* Linn. and *Lepisosteus platystomus* Raf., Havana, Illinois. All material is from collection of Dr. H. B. Ward.

*Proteocephalus singularis* nov. spec.: — With characters of genus. Strobila as much as 17 cm long by 0,90—1 mm broad. Head small 0,25—0,30 mm broad by 0,20—0,22 mm long, bearing four large suckers at broadest zone. Suckers separated by deep grooves. Apical region of head frequently prolonged into a slender unarmed tip. Suckers somewhat variable in outline but always with pointed apex, with shallow cavities and thin muscular walls. Length of suckers 0,13 to 0,17 mm, breadth 0,17—0,19 mm. No fifth sucker, nor vestige of same. Neck slender, 2—3 mm long. First proglottids much broader than long. Mature proglottids about twice as broad as long, ripe ones longer than broad or quadrate. Segmentation evident.

Genital pore as in *P. perplexus*. Testes 75—90, in one layer. Cirrus slender, straight, muscular. Cirrus-pouch slender, 0,185 to 0,265 mm long, reaching  $\frac{1}{3}$ — $\frac{2}{5}$  across proglottid breadth.

Vagina always anterior to cirrus-pouch and never crossing latter. Beginning region of vagina constricted, constriction terminating at sphincter vaginae situated 0,1 mm from opening of vagina. Beyond sphincter vaginae a dilatation. Vagina not ciliated. Vitellaria not extending along posterior border of proglottid. Vitelline follicles large. Uterus with 20—25 lateral pouches on either side and with 2—4 ventral pores. Embryos 0,014—0,0156—0,0168 mm, second egg-membrane 0,026—0,031 mm, outer membrane 0,027—0,033 mm in diameter.

Excretory vessels very sinuous. Dorsal vessel much smaller than ventral.

In *Lepisosteus platystomus* Raf., Havana, Illinois. All material is from Dr. H. B. Ward's collection.

*Choanosecolex* nov. gen.: — This genus is characterized by the fold of tissue at the base of the head and within which the head and suckers may be partially or wholly withdrawn. Sexual organs as in *Proteocephalus*. *Ichthyotaenia abscisa* Riggenbach from *Silurus* sp., Rio Paraguay, is the type of the genus. There are no other known species in this genus.

*Crepidobothrium* Monticelli: — This genus has but a single species. *C. gerrardii* (Baird), synonyms of which are *Taenia eunectes* A. J. Smith, *T. racemosa* Diesing (1850) and *T. racemosa* Shipley (1905). The genus is distinguished from *Ophiotaenia* nov. gen. by its cordate suckers.

A small non-functioning fifth sucker with a very small cavity which communicates with the exterior is situated at the apex of the head of *C. gerrardii*. It is nearly covered by the tissues of the head and is not to be seen except in sections. Muscles and basement membrane show

it to be a sucker in a state of atrophy about midway between the functional and the very vestigial suckers of different species of the family. A stage of atrophy similar to this is found in the heads of plerocercoids of *O. filaroides* La Rue. In this species the fifth sucker continues to atrophy until it becomes nothing but a small group of cells surrounded by a basement membrane and imbedded in the tissues of the head and lacking a communication with the exterior. A vestigial sucker has been found in *Acanthotaenia* by Johnston (1909) who called it a muscle plug.

*Ophiotaenia* nov. gen.: — Head globose or conical, flattened, smooth or furrowed.

Fifth sucker vestigial. Suckers round or oval, with entire margins. Sexual organs as in family. Testes in two fields near vitellaria. Vagina anterior or posterior to cirrus-pouch. In Crotalidae, Colubridae and Amphibia.

The type of the genus is *O. perspicua* nov. spec.

*Ophiotaenia perspicua* nov. spec.: — With characters of genus. Length up to 36 cm. Max. breadth about 2 mm. Head conical, marked by four grooves, breadth 0,255—0,408 mm, thickness 0,306 mm, length 0,27 mm. Suckers four, circular or oval or nearly triangular, 0,105—0,17 mm in max. dimension. Neck 5—7 mm long, slender. First proglottids short, mature ones quadrate, ripe ones longer than broad. Segmentation not evident.

Genital pore marginal, irregularly alternate, at end of first third or half of proglottid. Vagina anterior or posterior to cirrus-pouch. Testes 150—215, situated in two fields. Cirrus-pouch reaching  $\frac{1}{4}$ — $\frac{1}{3}$  across proglottid breadth. Cirrus slender.

Vagina dilated in first part, not crossing cirrus-pouch. Ovarian lobes long, flattened, irregular, made up of anastomosing tubes. Uterus with 20—30 lateral pouches on either side.

Eggs with three membranes. Embryos 0,018—0,021 mm in diameter. In *Nerodia rhombifer*, Havana, Illinois. Material in collection of La Rue.

*Ophiotaenia grandis* nov. spec.: — With characters of genus. Strobila very long (fragments measure 200 mm). Breadth 2,75—4,25 mm. Neck 5—8 mm long. Head 1—1,2 mm broad at base of suckers. No fifth sucker. Suckers nearly circular, deep, muscular, 0,340—0,360 mm in diameter.

Genital pore irregularly alternating, near middle of proglottid margin. No genital papilla but sometimes a very deep depression immediately about genital pore. Testes large, 200—250 in number, in two broad lateral fields. Cirrus-pouch large, length equal to  $\frac{1}{3}$ — $\frac{1}{3}$  of



the proglottid breadth. Cirrus short, heavy. Ductus ejaculatorius not coiled.

Vagina anterior or posterior to cirrus-pouch. Sphincter vaginae heavy. Uterus with 40—60 lateral out-pocketings on either side and with 2—8 ventral pores. Eggs with three membranes. Outer one ellipsoidal or spherical. Embryos 0,015—0,016 mm in diameter.

In *Ancistrodon piscivorus*. Locality unknown. Material from bottle 14854 U. S. Bureau of Animal Industry.

*Ophiotaenia trimeresuri* (Parona): — This species was first described by Parona (1898) as *Taenia trimeresuri*. Lühe (1899) examined Parona's specimens and placed them in the genus *Ichthyotaenia*. An examination of the original specimens which Dr. H. B. Ward secured from Professor Parona has convinced the writer that the species belongs in the genus *Ophiotaenia*.

The chief features of the species are: — Characters of genus. Testes 100—108 in number, situated in two fields anterior to ovary, never posterior to same. Mass of coils of vas deferens not large. Ductus ejaculatorius much coiled. Cirrus muscular, when protruded swollen at the base in which are numerous coils of ductus ejaculatorius. Cirrus-pouch large, reaching  $\frac{1}{4}$ — $\frac{2}{5}$  across proglottid breadth.

Vagina anterior or posterior to cirrus-pouch, not crossing same. Lobes of ovary flattened, elongate, narrow. Vitelline follicles small. Uterus with 20—30 lateral pouches on either side. No ripe eggs observed. In *Trimeresurus formosus*, Mentawai.

Other little and well known species which belong to this genus are:

From Snakes,

<i>O. marenzelleri</i> (Barrois)	from <i>Ancistrodon piscivorus</i> ,
<i>O. nattereri</i> (Parona)	- <i>Coluber</i> sp.,
<i>O. calmettei</i> (Barrois)	- <i>Bothrops lanceolatus</i> ,
<i>O. racemosa</i> (Rudolphi)	- <i>Coluber</i> sp.,
<i>O. punica</i> (Cholodkovsky)	- dog? (probably from a snake),
<i>O. lactea</i> (Leidy) (sp. inq.)	- <i>Nerodia sipedon</i> ,
<i>O. pigmentata</i> (v. Linstow)	- <i>Psammodynastes pulverulentus</i> .

From Amphibia,

<i>O. filaroides</i> (La Rue)	from <i>Amblystoma tigrinum</i> ,
<i>O. lönnbergii</i> (Fuhrmann)	- <i>Necturus maculatus</i> .

*Ichthyotaenia cryptobothrium* v. Linstow from *Chrysopelea ornata*, a tree snake, does not belong here but is a species of *Oöchoristica* and should be known as *Oöchoristica cryptobothrium* (v. Linstow) La Rue.

The species of *Ichthyotaenia* from the Varanidae belong to the genus

*Acanthotaenia* v. Linstow as emended by T. H. Johnston (1909), who included in it *A. biroi* (Rátz), *A. saccifera* (Rátz), *A. tidswelli* Johnston, and *A. shipleyi* v. Linstow, the type of the genus. This genus differs from *Ophiotaenia* primarily in the presence of spines covering the head.

The systematic location of *Tetraboethrium trionychium* Lönnberg has not been determined because the original description, unaccompanied by drawings, is too meager to permit it. Apparently it is a *Proteocephalus* but not a member of the genus *Proteocephalus*.

Further details and figures will be given in the monograph.

### Bibliography.

- Benedict, H. M., 1900. On the Structure of Two Fish Tape-worms from the Genus *Proteocephalus* Weinland, 1858. Jour. Morphology. Vol. 16. p. 337—368. 1 pl.
- Braun, M., 1900. Vermes, Abt. 1 b. Cestodes, in Dr. H. G. Bronn's Klassen und Ordnungen des Tierreichs. Leipzig.
- Johnston, T. Harvey, 1909. On a New Reptilian Cestode. Jour. and Proc. Royal Soc. N. S. Wales. Vol. 43. p. 103—116. 1 pl.
- Krämer, A., 1892. Beiträge zur Anatomie und Histologie der Cestoden der Süßwasserfische. Zeitschr. f. wiss. Zool. Bd. 53. S. 647—722. 2 pl.
- Lühe, M., 1899. Zur Kenntnis einiger Distomen. Zool. Anz. Bd. 22. S. 524—526.
- Parona, C., 1898. Elminti Raccolti Dal Dott. Elio Modigliani Alle Isole Mentawai, Engano E. Sumatra. Annali d. Museo Civico Storia Naturale Genova. Ser. 2. 19. 23 pp. 1 pl.
- Zschokke, F., 1884. Recherches sur l'organisation et la distribution zoologique des vers parasites des poissons d'eau douce. Arch. de Biologie. Tom. 5. p. 1—89. 2 pl.

## 4. Künstlich bewirkte Frühgeburt bei *Lacerta vivipara* Jacquin (Bergeidechse).

Von Oberleutnant Maximilian Wiedemann-Wien.

eingeg. 15. September 1911.

Im Frühjahr 1911 ließ ich mir von einem Händler aus dem deutschen Harzgebirge mehrere Exemplare der Bergeidechse (*Lacerta vivipara*) zusenden, worunter sich auch ein, durch den großen Körperumfang als trüchtig zu erkennendes Weibchen befand.

Unter normalen biologischen Verhältnissen ist diese Eidechse bekanntermaßen lebendgebärend, d. h. im strengen Sinne des Wortes eigentlich ovovivipar — das fertig ausgebildete Junge verläßt während oder im Zeitraum von wenigen Minuten nach der Eiablage die häutchenartige Hülle des Eies.

Obwohl dieser Eidechsenart — welche stets an feuchten Örtlichkeiten, wie Wäldern, Gewässerrändern und selbst Sümpfen, anzutreffen ist und die sich, da es dort an günstigen Eiablageplätzen fehlt, durch Lebendiggebären angepaßt hat — eher das feuchte Lurchterrarium zugesagt hätte, setzte ich doch die Tiere, aus Interesse an ihrer Haltbarkeit unter abweichenden Bedingungen, in ein trockenes Terrarium,